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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,982	10/30/2001	Russell M. Matney	OS 98-017	6908

7590 10/03/2003
VYTAS R. MATAS
2412 CEDARWOOD RD.
PEPPER PIKE, OH 44124

EXAMINER

CHAPMAN JR, JOHN E

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/015,982

Applicant(s)

MATNEY ET AL.

Examiner

John E Chapman

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4 and 6-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- ☐ Interview Summary (PTO-413) Paper No(s) _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 3-4 and 6-12 are rejected under 35 U.S.C. 112, second paragraph, as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

Claim 1 recites a step of “when $\frac{1}{2}$ skip, full skip and $1\frac{1}{2}$ skip reflections are detected, reviewing reflected signals for a crack tip signal.” However, a full skip reflection is a crack tip signal, albeit one near the inner surface. See page 14, line 25, to page 15, line 1. It is not clear how or why the reflected signals are reviewed for a crack tip signal when a crack tip signal (i.e., the full skip reflection) has already been detected. Furthermore, the specification teaches reviewing reflected signals for a crack tip signal prior to detecting whether $\frac{1}{2}$ skip, full skip and $1\frac{1}{2}$ skip reflections are present. See page 17, lines 5-11.

In claim 1, the step of “using target motion TOF with MCS correction” is vague and indefinite. It is suggested that it be changed to --using target motion time of flight (TOF) data to estimate the depth of the crack and correcting the TOF depth estimate for a mode converted signal (MCS)--.

In claim 1, --surface-- should be inserted before “crack” in line 1 to provide antecedent basis for “surface crack” in the last line.

Regarding claim 3, the step of “using FSN sizing method” is vague and indefinite. It is suggested that it be changed to --using the ratio of the 1 skip amplitude to the average of the $\frac{1}{2}$ skip and $1\frac{1}{2}$ skip amplitudes--.

In claim 4, --skip-- should follow “full” in lines 9 and 11.

It is not clear that claim 9 further limits claim 1, since claim 1 is directed to a combination of steps. It is suggested that claim 9 be changed to --A method of sizing surface cracks in a metal surface as set forth in claim 1, wherein the TOF depth estimate is the UT system depth measurement based on a conventional shear wave target motion time of flight (TOF) analysis.--

Likewise, the preamble of claim 10 should be changed to --A method as set forth in claim 9--, and the preamble of claim 11 should be changed to --A method as set forth in claim 10--.

Claim 10 is incomprehensible. There does not appear to be any verb, nor is it clear how it further limits the step of correcting the TOF depth estimate for a mode converted signal (MCS).

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gruber discloses a method of sizing cracks which uses the sequence and magnitude of the separation in time of arrival between a reflected pulse and its leading diffracted satellite pulse.

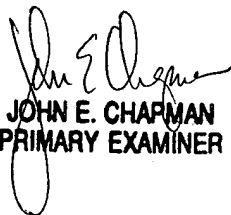
4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Chapman whose telephone number is (703) 305-4920.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.


JOHN E. CHAPMAN
PRIMARY EXAMINER